**Chapter 9 Quiz Study Guide**



Lessons 9-1 through 9-2

**Tell whether the transformation appears to be a rigid motion. Explain.**

|  |  |
| --- | --- |
| 111**1.** | 112**2.** |

**3.** If a transformation maps Δ*ABC* to Δ*A′B′C′,* what is the image of *A?*

**4.** If a transformation maps Δ*ABC* to Δ*A′B′C′,* what is the image of ?

**5.** Point *P*(*x, y*) moves 7 units left and 3 units up. What is a rule that describes this translation?

**Draw the image of each figure for the given transformation.**

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| --- | --- |
| 113**6.** *T*<3, 2>(Δ*ABC*) | 114**7.** *Ry*-axis(Δ*ABC*) |
|  | 115 |

**8.** Δ*XYZ* has vertices *X*(–2, 2), *Y*(–1, 5), and *Z*(2, 3).  
Write a transformation rule that reflects it across x=3 and then draw the image. Is there an equivalent translation rule?

117**9.** In the diagram to the right, is the rightmost object:

a) a reflection image

116b) a translation image

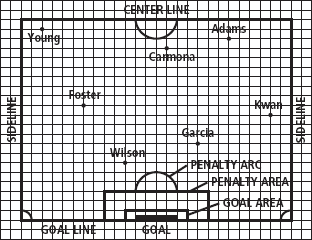
c) a combination of transformations

d) not a result of transformations

**10.** The point (1, 1) is the image after the translation *T<*3, –3>. What is the preimage of this point?

**Soccer Field Translations**

Below is a diagram of half a soccer field with seven offensive players. By passing and dribbling the ball, the players try to score by getting the ball into the goal. When a player passes, dribbles, or kicks the ball, the ball is being translated on the soccer field.



**Use the diagram to complete each Exercise. Each unit on the grid represents  
1 unit on a coordinate grid. Assume the ball’s starting position is (*x, y*).**

**11.** Garcia passes the ball to Wilson. What is the rule for this translation?

**12.** Young passes the ball to Foster. What is the rule for this translation?

**13.** Kwan passes the ball to Carmona. What is the rule for this translation?

**14.** Adams passes the ball to Kwan, who then passes the ball to Garcia. Write two rules to describe these translations.

**15.** Carmona passes the ball according to the rule *T*<–8, –6>(*x*, *y*). Who receives Carmona’s pass?

**16.** Wilson kicks the ball according to the rule *T*<3, –6>.(*x*, *y*). Is a goal scored if the goalie does not block the ball?

**17.** Young dribbles the ball according to the rule *T* <0, –10>(*x*, *y*), and then passes the ball according to the rule *T*<8, –4>(*x*, *y*). Who receives Young’s pass?

**543218.** If Carmona kicks the ball toward the goal and the goalie stops it in the penalty  
area, which of the following rules could represent Carmona’s kick?

|  |  |
| --- | --- |
| *T*<–6, –12>*(x, y)* | *T*<0, –12>(*x, y*) |
| *T*<–3, –15>*(x, y)* | *T*<5, –15>(*x, y*) |

**19**. What is the image of (2, 3) after a reflection across the *y*-axis?

**20.** Where is ABCD after Ry-axis; Rx-axis; Ry-axis; Rx-axis? Does it matter where the object is originally?